IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Date: October 1, 2003

DAVORIN DAVID HROVAT,
ILYA KOLMANOVSKY, and
WOONG-CHUL YANG

Filed : herewith

For : METHOD FOR CONTROLLING VARIABLE COMPRESSION RATIO OF AN ENGINE HAVING AN AUTOMATICALLY CONTROLLED TRANSMISSION

Mail Stop PATENT APPLICATION
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Sir:

INFORMATION DISCLOSURE STATEMENT UNDER 37 C.F.R. §§ 1.56, 1.97, and 1.98

Applicants are submitting this Information Disclosure Statement pursuant to 37 C.F.R. §§ 1.56, 1.97, and 1.98 to disclose to the Patent Office the patents, publications, applications, and/or other references listed on the enclosed, completed PTO-1449 form(s). The filing of this Information Disclosure Statement should not be construed as a representation that a search has been made or as an admission that the listed references are prior art for this application. Applicants respectfully request that the listed references be expressly considered during prosecution of the application, and that the references be made of record therein and appear among the "references cited" on any patents issuing therefrom.

CONTENT OF DISCLOSURE

This Information Disclosure Statement includes (1) two pages of PTO-1449 forms, and (2) a legible copy of each foreign and non-patent reference, if any, listed on the form(s). However, because this application was filed on or after July 1, 2003, no copies of U.S. patents or published U.S. patent applications are included.

In addition, applicants hereby disclose the following pending U.S. patent applications: U.S. Patent Application Serial No. 10/232,551, filed August 29, 2002, titled METHOD FOR PARTICULATE FILTER REGENERATION IN VEHICLES HAVING AN AUTOMATICALLY CONTROLLED TRANSMISSION, and naming Ilya V. Kolmanovsky and Davorin David Hrovat as inventors; U.S. Patent Application Serial No. 10/230,746, filed August 29, 2002, titled METHOD FOR CONTROLLING CAMLESS ENGINE HAVING AN AUTOMATICALLY CONTROLLED TRANSMISSION, and naming Ilya V. Kolmanovsky and Davorin David Hrovat as inventors; U.S. Patent Application Serial No. 10/232,554, filed August 29, 2002, titled POWERTRAIN CONTROL METHOD FOR MINIMIZING EFFECTS OF ENGINE TORQUE DISTURBANCES, and naming Davorin David Hrovat and Ilya V. Kolmanovsky as inventors; and, U.S. Patent Application Serial No. 10/293,871, filed November 13, 2002, titled METHOD FOR CONTROLLING CAMLESS ENGINE HAVING AN AUTOMATICALLY CONTROLLED TRANSMISSION, and naming Davorin David Hrovat and Ilya V. Kolmanovsky as inventors.

In addition, applicants hereby disclose that in U.S. Patent Application Serial No. 10/232,554, there was an Office action dated August 27, 2003, Paper No. 3, a copy of which is attached.

TIMING OF DISCLOSURE / FEE INFORMATION

This Information Disclosure Statement is being filed with the application. Therefore, in accordance with 37 C.F.R. § 1.97(b), no fee or statement under 37 C.F.R. § 1.97(e) is required.

Please contact the undersigned with any questions or comments regarding this Information Disclosure Statement.

"Express Mail" Mailing Label No.
EV 316282792 US
Date of Deposit – October 1, 2003

I hereby certify that the attached correspondence is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 C.F.R. 1.10 on the date indicated above and is addressed to: Mail Stop PATENT APPLICATION, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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Respectfully submitted,
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SHEET 1 OF 2

FORM PTO-1449 INFORMATION DISCLOSURE CITATION IN AN APPLICATION	DOCKET NUMBER 202-0813	APPLICATION NUMBER
	APPLICANT(S) Davorin David Hrovat et al.	
	FILING DATE herewith	GROUP ART UNIT

U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FIL. DATE IF APPROP.
	4,492,195	01-1985	Takahashi et al.			
	4,585,101	04-29-1986	Danno			
	5,038,635	08-13-1991	Takizawa			
	5,123,302	06-1992	Brown et al.			
	5,243,881	09-14-1993	Hayashi			
	5,303,794	04-1994	Hrovat et al.			
	5,484,353	01-1996	Lux et al.			
	5,882,279	03-16-1999	Ueki			
	6,063,004	05-16-2000	Ibamoto et al.			
	6,076,353	06-20-2000	Freudenberg et al.			
	6,079,204	06-27-2000	Sun et al.			

FOREIGN PATENT DOCUMENTS

	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB CLASS	TRANSLATION YES	NO

OTHER DOCUMENTS

EXAMINER	DATE CONSIDERED

SHEET 2 OF 2

FORM PTO-1449 INFORMATION DISCLOSURE CITATION IN AN APPLICATION	DOCKET NUMBER 202-0813	APPLICATION NUMBER
	APPLICANT(S) Davorin David Hrovat et al.	
	FILING DATE herewith	GROUP ART UNIT

U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FIL. DATE IF APPROP.
	6,083,140	07-2000	Kimura			
	6,188,944	02-13-2001	Kolmanovsky et al.			
	2001/0002379	05-2001	Schechter			
	6,254,510	07-2001	Rauch et al.			
	6,386,351	05-2002	Salecker et al.			

FOREIGN PATENT DOCUMENTS

	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB CLASS	TRANSLATION YES	NO

OTHER DOCUMENTS

EXAMINER	DATE CONSIDERED

Substitute for form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet 1 of 1

Complete if Kn wn	
Application Number	To be assigned
Filing Date	Herewith
Applicants	Hrovat, Kolmanovsky
Group Art Unit	
Examiner Name	
Attorney Docket Number	201-0094

J1046 U.S. PTO
10/232554
08/29/02

U.S. PATENT DOCUMENTS

EXAMINER INITIAL*	Cite No. [1]	DOCUMENT NUMBER Code[2]	Kind (if known)	NAME	DATE MM-DD-YY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
TOL		5,243,881		Hayashi	09-14-93	
TOL		5,882,279		Ueki	03-16-99	
TOL		6,063,004		Ibamoto et al	05-16-00	
TOL		6,076,353		Freudenberg et al	06-20-00	
TOL		6,079,204		Sun et al	06-27-00	
TOL		6,188,944		Kolmanovsky et al	02-13-01	

FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL*	Cite No. [1]	Foreign Patent Document Code[5] Office[3]	Number[4]	Kind (if known)	NAME	DATE MM-DD-YY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T[6]

EXAMINER | DATE CONSIDERED 8/19/03

*Examiner: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] Unique citation designation number. [2] Applicant is to place a check mark here if English language Translation is attached. [3] Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). [4] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [5] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. [6] Applicant is to place a check mark here if English language Translation is attached.

DETAILED ACTION

The following is a first action on the merits of application serial no. 10/232,554, filed on August 29, 2002.

Claim Objections

Claims 1 and 11 are objected to because of the following informalities:

-In the claim 1, line 14, "torque disturbance" should be changed to engine output disturbance as introduced.

-In the claim 11, lines 13 and 14, before "engine torque", "an" or "said" should be deleted. Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> **(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.**

Claims 1-4, 8-11 and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lux et al ('353) in view of Hrovat et al ('794). As to claims 1-3, 8, 9, 11 and 20, Lux et al discloses controlling a vehicle powertrain having an engine (20) and a torque transmitting unit (12) with a transmission path having a clutch (50) and a electronic control unit (180) wherein,

the torque transmitting unit operates according to a gear ratio (via 188),

the electronic controller predicts a driveline disturbance in the gear ratio, and via adaptive control the clutch is controlled when the disturbance exceeds a predetermined amount, but Lux et al only discloses one transmission path and one clutch controlling the path.

Hrovat et al ('794) discloses controlling a vehicle output having an engine (102), a torque transmitting unit (105) with multiple transmission paths including clutches (108, 110) and a electronic control unit (100) wherein,

the torque transmitting unit provides a preselected gear ratio,

the electronic controller predicts a wheel spin with one clutch already engaged, and engages the other clutch to control the wheel spin of the vehicle with the previously engaged clutch.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide Lux et al with an additional torque path/clutch and clutch engagement control in view of Hrovat et al to maintain the drive train torque path through the previously engaged clutch when an engine output disturbance is indicated.

As to claim 4, Lux et al discloses the disturbance to be in the form of engine torque (load).

As to claims 10, 18 and 19, Lux et al discloses the clutch being operated through hydraulic pressure (via 110).

Claims 5-7 and 12-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lux et al in view of Hrovat et al as applied to claims 1, 2 and 11 above, and further in view of Kolmanovsky et al ('944). Lux et al discloses an engine output disturbance control, but does not disclose if the disturbance is an emission device.

Hrovat et al discloses a disturbance control for wheel spin by reducing engine output, but does not disclose if the engine has an emission device.

Kolmanovsky et al discloses a system for controlling torque disturbances of an engine output having a electronic controller (24) indicating disturbance according to different engine parameters including emission which uses a catalytic converter (16) and a particulate filter (22) for purifying the catalytic converter between a rich and lean oxidant when an engine disturbance is indicated.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide Lux et al and Hrovat et al with an engine control means in view of Kolmanovsky et al to minimize fuel consumption of the engine when a torque disturbance is indicated.

FACSIMILE TRANSMISSION

Submission of your response by facsimile transmission is encouraged. Group 3600's facsimile number is **(703) 305-3597**. Recognizing the fact that reducing cycle time in the processing and examination of patent applications will effectively increase a patent's term, it is to your benefit to submit responses by facsimile transmission whenever permissible. Such submission will place the response directly in our examining group's hands and will eliminate Post Office processing and delivery time as well as the PTO's mail room processing and delivery time. For a complete list of correspondence **not** permitted by facsimile transmission, see MPEP 502.01. In general, most responses and/or amendments not requiring a fee, as well as those requiring a fee but charging such fee to a deposit account, can be submitted by facsimile transmission. Responses requiring a fee which applicant is paying by check **should not be** submitting by facsimile transmission separately from the check.

Responses submitted by facsimile transmission should include a Certificate of Transmission (MPEP 512). The following is an example of the format the certification might take:

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(Date)
Typed or printed name of person signing this certificate:

____

____
(Signature)

If your response is submitted by facsimile transmission, you are hereby reminded that the original should be retained as evidence of authenticity (37 CFR 1.4 and MPEP 502.02). Please do not separately mail the original or another copy unless required by the Patent and Trademark Office. Submission of the original response or a follow-up copy of the response after your response has been transmitted by facsimile will only cause further unnecessary delays in the processing of your application; duplicate responses where fees are charged to a deposit account may result in those fees being charged twice.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

-Takahashi et al ('195), Brown et al ('302), Salecker et al ('351) and Rauch et al ('510) are cited as having engine output torque disturbance control for a powertrain.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TISHA D. LEWIS whose telephone number is 703-305-0921. The examiner can normally be reached on M-Thur 8 AM TO 3 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, CHARLES A. MARMOR can be reached on 703-308-0830. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-2168.

Tdl

August 22, 2003

TLewis

Tisha D Lewis
Patent Examiner
AU 3681 8-22-03